



PUBLIC NOTICE

Federal Communications Commission
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DA 14-852
Release Date: June 20, 2014

OFFICE OF ENGINEERING AND TECHNOLOGY SEEKS COMMENT ON MEASUREMENTS OF LTE INTO DTV INTERFERENCE

ET Docket No. 14-14
GN Docket No. 12-268

Comments Deadline: July 11, 2014

The FCC's Office of Engineering and Technology (OET) seeks to supplement the record in the incentive auction proceeding by inviting comment on measurements of wireless Long-Term Evolution (LTE) interference into digital television (DTV) receivers conducted by OET engineers.¹

In the inter-service interference (ISIX) Public Notice (PN),² OET invited comment on a methodology for predicting ISIX. For purposes of that methodology, OET assumed that the wireless services operating in the new 600 MHz Band will appear noise-like to the DTV receiver and hence, that the interference potential from LTE will be nearly identical to DTV-to-DTV interference. In addition, OET incorporated an off-frequency rejection (OFR) factor as a function of varying degrees of spectral overlap due to filter roll-off in the misaligned future wireless blocks and existing TV channels in the 600 MHz Band. OET also added 0.8 dB to the interfering wireless signal to account for the possibility of co-channel power from multiple wireless blocks affecting one 6 MHz TV channel.³ Several commenters

¹ See *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Report and Order, GN Docket No. 12-268, FCC 14-50 at paras. 82-84 (June 2, 2014) (adopting a 600 MHz Band Plan that can accommodate market variation in order to avoid restricting the amount of repurposed spectrum that is available in most areas nationwide and identifying issues raised by that decision, including how to prevent inter-service interference between broadcast and wireless services operating on the same or adjacent channels in certain markets).

² See *Office of Engineering and Technology Seeks to Supplement the Incentive Auction Proceeding Record Regarding Potential Interference Between Broadcast Television and Wireless Services*, GN Docket No. 12-268, ET Docket No. 14-14, Public Notice, 29 FCC Rcd 712, (2014) (*ISIX PN*)

³ ERP of 720 W = 120 W/MHz x 6 MHz.

raised concerns about these assumptions which form the basis for the D/U ratios of Table 8, the OFR values of Table 9, and the assumed effective radiated power (ERP) in Table 10 of the ISIX PN.⁴

In April 2014, OET engineers tested the characteristics of LTE-into-DTV interference in the FCC Laboratory, and the results of those measurements are presented in the attached report. As explained in the attached report, four DTV receivers were tested in order to obtain a reasonable indication of their behavior in the presence of an interfering LTE eNodeB signal.

Additionally, the Consumer Electronics Association (CEA) submitted measurements of LTE to DTV interference on six newer model television receivers and two older model receivers.⁵

Specific Topics of Comment

OET seeks comment on the measurements and observations discussed in OET's attached Report. Specifically, OET seeks comment on whether these measurements, in conjunction with CEA's measurements, support the D/U ratios, OFR, and power adjustments that appear in in Tables 8, 9, and 10 of the *ISIX PN*.

OET also seeks comment on the relevance of the measurements associated with two receiver models that are more than 7 years old. The OET Report contains measurements of a 2007 model year receiver and the CEA Report contains measurements of a 2006 model year receiver. OET anticipates that these receivers will no longer be commercially available and will be approaching the end of their useful lifecycle at the time of the wireless build out in the 600 MHz Band.

This Public Notice is being issued pursuant to Section 0.31 of the Commission's rules by the Office of Engineering and Technology, a member of the Incentive Auction Task Force.⁶ Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). See Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://fjallfoss.fcc.gov/ecfs2/>.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

⁴ See, e.g., Society of Broadcast Engineers, Incorporated, Comments, GN Docket No. 12-268, ET Docket No. 14-14, at 6 (filed Mar. 17, 2014) ("SBE Comments"); National Association of Broadcasters, ABC Television Affiliates Association, FBC Television Affiliates Association, CBS Television Network Affiliates Association, NBC Television Affiliates, The Association of Public Television Stations, The Corporation for Public Broadcasting, and the Public Broadcasting Service, Comments, GN Docket No. 12-268, ET Docket No. 14-14, at ii, 18-24 (filed Mar. 18, 2014) ("Joint Broadcasters Comments"). ;

⁵ See Letter from Julie Kearney, CEA, to Marlene H. Dortch, FCC, GN Docket 12-268, ET Docket 14-14, (filed May 22, 2014) ("CEA Report").

⁶ 47 C.F.R. § 0.31.

- Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

All filings must be addressed to the Commission's Secretary, Marlene H. Dortch, Office of the Secretary, Federal Communications Commission, 445 12th Street, SW, Washington, DC 20554. Parties should also send a copy of their filings to Robert Weller, Office of Engineering and Technology, Federal Communications Commission, Room 7-A140, 445 12th Street, SW, Washington, DC 20554, or by e-mail to Robert.Weller@fcc.gov. Parties must also serve one copy with the Commission's Copy contractor, Best Copy and Printing, Inc. (BCPI), Portals II, 445 12th Street, SW, Room CY-B402, Washington, DC 20554, (202) 488-5300, or via e-mail to fcc@bcpiweb.com.

The proceeding this Notice initiates shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.⁷ Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

⁷ 47 C.F.R. §§ 1.1200 *et seq.*

For further information, contact Robert Weller at (202) 418-7397 or by email at robert.weller@fcc.gov.

By the Chief, Office of Engineering and Technology.

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